SGS-THOMSON MICROELECTRONICS

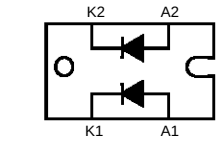
STPS80L10TV

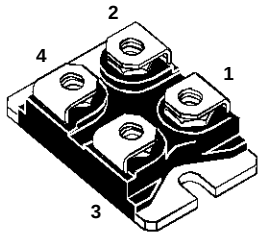
LOW DROP OR-ing POWER SCHOTTKY DIODES

PRELIMINARY DATASHEET

MAIN PRODUCT CHARACTERISTICS

$I_{F(AV)}$	2*40 A
V_{RRM}	10 V
V_F (max)	0.33 V





ISOTOPTM
(Plastic)

FEATURES AND BENEFITS

- VERY LOW DROP FORWARD VOLTAGE FOR LESS POWER DISSIPATION AND REDUCED HEATSINK
- OPTIMIZED CONDUCTION/REVERSE LOSSES TRADE-OFF WHICH MEANS THE HIGHEST YIELD IN THE EQUIPMENTS

DESCRIPTION

Dual Schottky rectifier suited for Switched Mode Power Supplies and DC to DC power converters.

Packaged in ISOTOP, this device is especially intended for use as an OR-ing diode in fault tolerant Power Supplies equipments.

ABSOLUTE RATINGS (limiting values) PER DIODE

Symbol	Parameter		Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		10	V
$I_{F(RMS)}$	RMS Forward Current		100	A
$I_{F(AV)}$	Average Forward Current	Tc = 80°C δ = 0.5	40	A
I_{FSM}	Surge Non Repetitive Forward Current	tp = 10 ms Sinusoidal	700	A
I_{RRM}	Repetitive Peak Reverse Current	tp = 12 µs F = 1KHz	2	A
T_{stg}	Storage Temperature Range		- 65 to + 150	°C
Tj	Max. Junction Temperature		100	°C
dV/dt	Critical rate of rise of Rise Voltage		1000	V/µs

TM : ISOTOP is a trademark of SGS-THOMSON Microelectronics

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th\ (j-c)}$	Junction to Case Thermal Resistance	Per diode	1	°C/W
		Total	0.55	
$R_{th\ (c)}$	Coupling Thermal Resistance	Coupling	0.1	

STATIC ELECTRICAL CHARACTERISTICS (per diode)

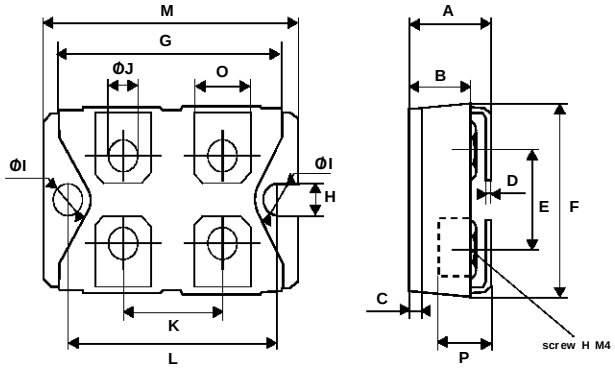
Symbol	Parameter	Tests Conditions		Min.	Typ.	Max.	Unit
I_R *	Reverse leakage Current	Tj = 100°C	V_R = 5V		220		mA
		Tj = 25°C	V_R = 10V			11	mA
		Tj = 100°C			0.32	1.1	A
V_F *	Forward Voltage drop	Tj = 25°C	I_F = 40 A			0.43	V
		Tj = 100°C	I_F = 40 A		0.28	0.33	

Pulse test : * tp = 380 µs, duty cycle < 2%

To evaluate the conduction losses use the following equation :
$P = 0.19 \times I_{F(AV)} + 3.25\ 10^{-3} \times I_F{}^2{}_{(RMS)}$
Typical junction capacitance, V_R = 5V F = 1MHZ Tj = 25°C : 4nF

PACKAGE MECHANICAL DATA

ISOTOP



REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	11.80	12.20	0.465	0.480
B	8.90	9.10	0.350	0.358
C	1.95	2.05	0.077	0.081
D	0.75	0.85	0.029	0.034
E	12.60	12.80	0.496	0.504
F	25.10	25.50	0.988	1.004
G	31.50	31.70	1.240	1.248
H	4.00		0.157	
I	4.10	4.30	0.161	0.169
J	4.10	4.30	0.161	0.169
K	14.90	15.10	0.586	0.595
L	30.10	30.30	1.185	1.193
M	37.80	38.20	1.488	1.504
O	7.80	8.20	0.307	0.323
P	5.50		0.216	